

**ABSTRACT OF THE DISCLOSURE**

Disclosed is a fabrication method of an apodized optical fiber grating. The method according to the invention uses an ultraviolet light source for outputting an ultraviolet layer, a lens field for converging or emitting the light incident from the ultraviolet light source, an amplitude mask for selectively transmitting the ultraviolet layer incident from the lens field, and an optical fiber, on which the light that has transmitted the amplitude mask. Accordingly, the method includes a first step of setting a cycle of the optical fiber grating formed on the optical fiber and a width of each stripe pattern, a second step of setting a longitudinal ratio, which is a ratio of the distance between the converging or emitting point of the lens field and the amplitude mask to the distance between the converging or emitting point of the lens field and the optical fiber, a third step of setting a cycle of the amplitude mask so as to unify a transverse ratio, which is a ratio of the cycle of the amplitude mask to the cycle of the optical fiber grating, with the longitudinal ratio set in the second step, and a fourth step of setting a thickness of the amplitude mask so as to match the pattern of the optical fiber grating set in the first step with the pattern of an optical distribution on the injecting surface of the mask.